REMARKS:

Claim 3 (Third Amendment) has been amended by the addition of the following language to Claim 3 as previously amended: "through which said hydrocarbons flow". Claim 6 (Third Amendment) has been similarly amended.

Claim Rejections - 35 USC § 103
Claims 3 and 6 (Third Amendment)

Item No. 1 of the 9/8/2006 Office Action states in part: "Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being anticipated by Coats 6,615,848 alone."

Element 50 in Coates is the "conduit" (column 5, line 22). The "conduit" in Coates corresponds to the flowline in Claim 3 of the instant invention. Element 70 in Coates is the "tubing string" (column 5, line 21). Coates only describes making the tubing string possibly neutrally buoyant. Importantly, Coates does not describe making the "conduit" neutrally buoyant by the introduction of the "tubing string". However, applicant's invention in Claim 3 does describe making the flowline itself neutrally buoyant. Importantly, Coates does not describe making the assembly of the "conduit" and of the "tubing string" to be neutrally buoyant under any circumstances. For these reasons alone, applicant submits that Claim 3 (Third Amendment) is allowable over Coates.

The 9/8/2006 Office Action states in part: "As concerns claim 3, Coats shows a flowline for producing hydrocarbons

from a subsea well that is comprised of a substantially neutrally buoyant tubular composite umbilical means (figures 1-2)...". Applicant wishes to respectively point out that the "tubing string" is not a flowline and it is not used to conduct hydrocarbons through it during production. Put another way, the "tubing string" in Coates is not intended to be a flowline through which hydrocarbons are intended to flow from the subsea well to the surface during normal production operations. For this reason alone, applicant respectfully submits that Claim 3 (Third Amendment) is allowable over Coates.

Further, the "tubing string" 70 in Coates is not used to produce hydrocarbons. Instead, the "tubing string" in Coates is used to clean out the interior of the "conduit" 50. Put another way, the tubing string in Coats is a major portion of a working device, or work tool, temporarily placed within the "conduit" or within the flowline to clean it out. The temporarily placed work tool is removed before normal production resumes. Put in terms of the instant invention, if the flowline of Claim 3 (Third Amendment) were to become hypothetically obstructed for one reason or another, then the invention described in Coates could be used to clean out the flowline - but the invention in Coates would be removed before production flow through the flowline resumed. However, one advantage of the applicant's invention in Claim 3 (Third Amendment) is that the flowline itself is intrinsically constructed to minimize the probability of having to introduce a device such as shown in Coates to clean it out. So, applicant's invention reduces the cost and complexity to keep open subsea flowlines by preventing the build-up of the waxes and hydrates to begin with.

The 9/8/2006 Office Action further states: "Therefore, it would have been obvious to one or ordinary skill in the art at the time the invention was made to modify Coates to anchor the flowline over canyons to overcome varying subsea conditions, thus improving the versatility of the flowline." Applicant respectfully wishes to point out that (A) Coates never teaches making a neutrally buoyant flowline through which hydrocarbons are intended to flow during actual production operations. Nor (B) does Coates teach attaching any such flowline in a manner to overcome varying subsea conditions. Accordingly, the 9/8/2006 Office action requires two independent "obviousness" type steps used in combination for the rejection which applicant submits is very unreasonable - particularly in such a crowded art. Accordingly, applicant submits that Claim 3 (Third Amendment) is allowable over Coates for these reasons alone.

Applicant wishes to respectfully point out that Coats is an invention directly solely at "An apparatus for removing material from a conduit..." (lines 1 and 2 of Claim 1); and "A tool for removing deposits from the inside diameter of a conduit, the tool comprising.." (lines 1 and 2 of Claim 16); and "A method of monitoring and cleaning a conduit inner diameter with deposits..." (lines 1 and 2 of Claim 22). The only independent claims in Coats are Claims 1, 16, and 22. Applicant wishes to respectfully point out that the invention described in Coats is not a flowline itself, but instead, is a device to clean out an existing flowline. In Coats, the tubular attached to the "cleaning and monitoring tool attached to its end" (Coats, Abstract) is inserted within a flowline, but the combination of those two elements in Coats would not make an assembled entire flowline that is substantially neutrally buoyant as taught in applicant's

invention. Further, although Coats does describe using "a nearly neutrally buoyant or substantially buoyant.." "tubing string" attached to the cleaning tool, Coats does not describe using such "tubing string" as a flowline itself. Therefore, applicant's invention solves a different problem than Coats, and such different problem is recited in applicant's Claim 3 (Third Amendment). Further, Coats lacks any suggestion that its teachings should be modified in a manner required to meet applicant's Claim 3 (Third Amendment).

This is an important invention that is needed now in the oil industry. Spanning a subsea canyon with a steel flowline subjects that flowline to large stresses and such a steel flowline is subject to failure. Spanning a subsea canyon with a portion of a neutrally buoyant tubular composite umbilical provides an alternative that is less subject to failure, is cheaper to install, and is faster to install. So, applicant's invention is better, cheaper, and faster to install. Accordingly, applicant respectfully submits that Claim 3(Third Amendment) is allowable over Coats. This same reasoning also applies to Claims 1, 2, 4, and 5 as previously amended, and which are discussed below, but this logic will not be repeated further in detail in the interests of brevity and in the interests of saving Examiner's time. This same logical argument applies to both neutrally buoyant tubular composite umbilicals and to positively buoyant tubular composite umbilicals that are used to span subsea canyons. This general argument will be referenced below as applicant's invention being "better, cheaper, and faster to install."

There are other reasons that Claim 3(Third Amendment) is allowable over Coats. The results achieved by the invention

are new, unexpected, superior, and surprising. The invention is classified in a crowded art, and therefore, a small step forward should be regarded as significant. The prior art lacks any suggestion that the reference should be modified in a manner required to meet the claims. Up to now, those skilled in the art never appreciated the advantage of the invention. If the invention were in fact obvious, because of its advantages, those skilled in the art surely would have implemented it by now. That is - the fact that those skilled in the art have not implemented the invention, despite its great advantages, indicates that it is not obvious. The invention solves a long-felt, long-existing, but unsolved need. The invention is contrary to the teachings of the prior art - that is , the invention goes against the grain of what the prior art teaches. The invention uses a new principle of operation, and applicant has blazed a new trail, rather than followed one. Applicant's invention solves a different problem than the reference, and such different problem is recited in the claims. For future reference, the above cited reasons are defined herein as the "First Set of Reasons" showing that Claim 3(Third Amendment) is allowable over Coats.

Almost all of the same comments above apply to Claim 6(Third Amendment). Briefly, with regards to Claim 6(Third Amendment), Coats does not describe a flowline for producing hydrocarbons from a subsea well that is comprised of a substantially neutrally buoyant tubular composite umbilical means through which hydrocarbons are intended to flow from the subsea well to the surface. Further, Coats does not describe anchoring the substantially neutrally buoyant tubular composite umbilical means to the sea bottom at a first location on a first side of said canyon and anchoring

it to the sea bottom at a second location on a second side of said canyon, whereby the first and second locations are on opposite sides of said canyon, and whereby a portion of the neutrally buoyant tubular composite umbilical between the first and second locations passes over the canyon in ocean bottom. As discussed above, the 9/8/2006 Office Action rejection requires two independent "obviousness" type steps ("A" and "B") which applicant submits is very unreasonable - particularly in such a crowded art. Accordingly, applicant submits that Claim 6 (Third Amendment) is allowable over Coates for these reasons alone and for the additional reasons cited above in relation to Claim 3(Third Amendment). Accordingly, applicant respectfully submits that Claim 6(Twice Amended) is allowable over Coats.

Therefore, applicant has addressed all the issues in the 9/8/2006 Office Action related to these particular claims, and therefore applicant respectfully submits that Claim 3(Twice Amended) and Claim 6(Twice Amended) are in a condition for allowability.

Claim Rejections - 35 USC § 103
Claims 1, 2, 4, and 5

As a minor point, Item 2 of the 9/8/2006 Office Action states on page 3, lines 2-3: "Costa Filho shows a flowline for producing hydrocarbons from a subsea well that is comprised of tubular 78....". Applicant has not been able to identify element 78 in Costa Filho, although applicant assumes this is element 13.

Item No. 2 of the 9/8/2006 Office Action states in part: Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Costa Filho 5,289,561 in view of Quigley et al 6,663,453." The Office Action further states: "Costa Filho does not show a substantially neutrally buoyant flow line (that) is substantially neutrally buoyant in the sea water adjacent to the subsea well; however, Quigley shows a similar flowline (fig 12) for producing hydrocarbons (from) a subsea well including buoyancy means that allows for neutral or positive buoyancy (col. 1, lines 1-17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Costa Filho as taught by Quigley, to include buoyancy to prevent damage to the flowline by its weight (having to be thicker the deeper the flowline) at greater depths while maintaining flow performance." The 9/8/2006 Office Action further states: "The buoyant flowline of the combination is capable of being anchored on either ends of a canyon. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination above to anchor the flowline over canyons to overcome varying subsea conditions thus improving the versatility of the flowline."

Applicant respectfully submits that the above complex arguments present many independent steps that must be combined in an unreasonable fashion to anticipate applicant's invention.

First, the 9/8/2006 Office Action states that "Costa Filho does not show a substantially neutrally buoyant flow line (that) is substantially neutrally buoyant in the sea water adjacent to the subsea well." Costa Filho never

disclosed any method or apparatus to make his system neutrally buoyant. Nor did Costa Filho disclose any method or apparatus for spanning canyons in the ocean bottom nor the advantage of neutral buoyancy to such methods and apparatus.

It would not have been obvious to one of ordinary skill in the art to combine Costa Filo and Quigley to make a substantially neutrally buoyant apparatus and then in addition, to use that apparatus for an entirely different purpose of spanning canyons in seabottoms - a topic that was not addressed by either Costa Filo or Quigley. Accordingly, applicant submits that the 9/8/2006 Office Action uses an awkward and unreasonable combination to solve a problem that was not addressed by either reference.

With respect to Claim 1(Previously Amended), neither Costa Filho nor Quigley, nor their combination, teach or suggest a flowline for producing hydrocarbons from a subsea well that is comprised of a substantially neutrally buoyant tubular composite umbilical means which passes over a canyon in the ocean bottom. Further, neither Costa Filho nor Quigley, nor their combination, teach or suggest using a substantially neutrally buoyant tubular composite umbilical means that is anchored to the sea bottom at a first location on a first side of the canyon and is anchored to the sea bottom at a second location on a second side of the canyon, whereby the first and second locations are on opposite sides of the canyon, and whereby a portion of the neutrally buoyant tubular composite umbilical between the first and second locations passes over the canyon in the ocean bottom. Accordingly, applicant respectfully submits that Claim 1(Previously Amended) is allowable over Costa Filho in view of Quigley.

There are other reasons that Claim 1(Previously Amended) is allowable over Costa Filho in view of Quigley. The prior-art references do not contain any suggestion (express or implied) that they be combined, or that they be combined in the manner suggested by Claim 1(Previously Amended). The references take mutually exclusive paths and reach different solutions to several different problems. Since they teach away from each other, it would not be logical to combine them. The references themselves teach away (expressly or by implication) from the suggested combination. If they could be literally combined, the references would produce an inoperative literal combination. It would be necessary to make more modifications, not taught in the prior art, in order to combine the references in the manner suggested by Claim 1(Previously Amended). Even if combined, the references would not meet the invention as defined in Claim 1(Previously Amended). The combination suggested requires a series of separate, awkward combinative steps that are too involved to be considered obvious. For these reasons, applicant submits that Claim 1(Previously Amended) is allowable over Costa Filho in view of Quigley. These reasons in this paragraph are defined herein as the "Second Set of Reasons". Further, applicant submits that the invention in Claim 1(Previously Amended) is better, cheaper and faster to install as described above.

Very similar arguments could be submitted one by one herein for the amended language added to Claim 2(Previously Amended), Claim 4 (Previously Amended), and Claim 5(Previously Amended), but in the spirit of brevity, and to save Examiner's valuable time, those arguments will not be repeated based on the quotes of the added language to each and every one of those amended claims herein. The Second Set

of Reasons also applies to each of those Claims. Further, applicant submits that the invention as described in Claim 2(Previously Amended), Claim 4(Previously Amended), and Claim 5(Previously Amended) is better, cheaper and faster to install as described above.

Therefore, applicant has addressed all the issues in the 9/8/2006 Office Action related to these claims, and therefore applicant respectfully submits that Claim 1 (Previously Amended), Claim 2(Previously Amended), Claim 4(Previously Amended), and Claim 5(Previously Amended) are in a condition of allowability over Costa Filho in view of Quigley.

Summary

In accordance with the above, applicant has responded in detail to every single point in the 9/8/2006 Office Action. Therefore, applicant respectfully submits that Claims 1-6 are in a condition for allowability.

Thank you.

PAYMENT OF FEES:

All fees are to be paid from Applicant's Account No. 50-0499. To applicant's best knowledge, only the amount of $60.00 is required for the one-month extension.

If the applicant has made a mistake on the payment of any fees herein, applicant requests that any such deficiencies be billed to Account No. 50-0499 that was

established on 3/20/1998. Fees on patents and patent applications entirely owned, or owned in part, by William Banning Vail III may be made from this account. William Banning Vail III is doing business as an inventor under the name of "Vail's Inventions". Marilyn L. Vail, the wife of William Banning Vail III, may also direct that fees be paid from this Account No. 50-0499. If for unforeseen reasons funds are not available in that account, please let applicant know as soon as possible and said deficiencies will be paid immediately. In the event of overpayment of any fees herein, applicant respectfully requests that any overpayment be deposited into Account No. 50-0499.

Pro-Se Case

This case herein is a pro-se case. Therefore, in the event that the USPTO objects to any, or all of the claims herein, applicant respectfully requests assistance from the Examiner under MPEP Section 707.07(j) to draft an acceptable claim based upon the disclosure and language in the application.

Further, in the event that the Examiner rejects the claims, applicant requests that Examiner direct applicant to the claims closest to allowability, and if possible, applicant further requests that Examiner preliminarily mark-up one of said claims in a future office action to further aid applicant to achieve allowability of at least one claim in an expeditious fashion.

DECLARATION:

As applicant, I hereby verify that all statements made herein of my own knowledge are true and that all statements made on my information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

This application is filed pro-se. The applicant is using the book entitled "Patent It Yourself", Eleventh Edition, by David Pressman, and if there are errors, please advise the co-inventor, and such errors will be corrected immediately. Applicant has used certain arguments presented in that book herein.

(Entire Signature On Next Page for Clarity)

Please address all correspondence involving this case to the co-inventor at the below defined address. Thank you.

Very respectfully submitted,

William Banning Vail III — JAN. 8, 2007
Date

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(Note: This is the signature page of the document entitled "RESPONSE TO OFFICE ACTION MAILED 9/8/2006 AND AMENDMENT" for Serial No. 10/800,443.)